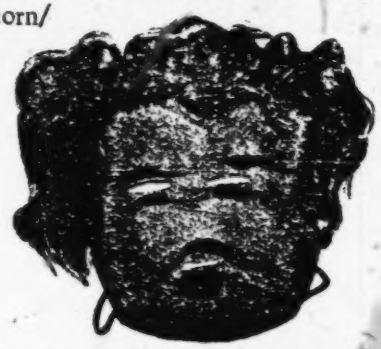
/341 cont./

241 115 ladder, that is, a thick branch with deep cuts for steps. Captain Karnapadyú's chacra /cultivated clearing/ was about 200 meters by 70 meters in size. At the edge stood a small wooden hut covered with straw.

The "Captain" began by showing me some manioc plants and had me cross a large square sown exclusively with beans and gourds /citronilles/. The corn fields came next. They were divided in two by a second hedge formed of trunks and thorns. Squash /courges/ grew between the rows of corn. After the maïzal /field of corn/ followed a second expanse covered with beans, squash, and melons, which Karnapadyú told me belonged to his daughter. Here and there rose several stalks of sorghum. A new corn-field was opposite the



241 532 322 239

Fig. 8. Mask (tovaraanga) carved out of a calabash and provided with hair and eyebrows of horsehair. It was hung up in a planted field where it was serving as a scarecrow. Prov.: Carurutí. (1/5 nat. size.)

241 115 [322] [415] [824] first, and another cabin rose at its edge. In both of these properties the only plants cultivated for their manufacturing value were the cucurbitaceous ones from which the Indians make their cups and bottles.

Next, on the opposite cliff, I visited the chacra of another Indian of the same village. A steeper and more difficult road than the first led to it. The plantation was lower down a hill on which a little hut was perched. These fields were almost solely covered with corn among whose stalks grew squash. As before, the maïzales were preceded by plantings of beans and squash.

/375 cont./

Calabashes

415 In each Chiriguano village calabashes are as abundant as pottery (see Fig. 47 /see p. 139 /). The huts are full of them. They are of every shape and size, from the spoons we spoke of to the big basins in which the kāwi is distributed on feast days.

[286] The calabashes which are ovoid or gourd-shaped are generally enveloped in a kind of rudimentary net of vegetable fibers or leather thongs, which allows them to be carried in the hand or hung (1). In them is put either water, or grain

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1. Nordenskiöld (10, p. 97) has given the list of the South American tribes who put their calabashes inside a net to carry or hang them. This contrivance is widespread on the continent and its distribution is certainly greater than that indicated by Nordenskiöld, but travelers generally take only slight interest in such details, which are nevertheless important. The Kaingúa of Paraguay encompass their calabashes with wembé bark just like the Chiriguano (see Ambrosetti, 2, p. 716).

415 and seed, or roasted flour, or finally roucou or kalasapa powder saved for feast days (Plate XX, 1 and 2; Plate XXI, 3 and 4).

• [322] Some calabashes are provided with a lid which the Indians make by cutting a calotte with star-shaped edges in the still green fruit, and this then forms a hermetic closing. The lid is fastened on by means of a small cord which, when pulled, suffices to close the calabash /376/ (Plate XX, 4 and Plate XXI, 2). Gourds whose opening is small in diameter receive a fragment of a shelled ear of corn as a stopper. /Figs. 42-47 appear here./

[121] Painted, pyrographed, or incised calabashes will be the object of a special study.

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Figs. 42-43. Wooden spoons (karuha or iwira-karu). No. 42 comes from Carurutí and 43 from Nawirenda. (1/4 nat. size.)

Fig. 44. A bignoniaceous or an asclepiadaceous fruit whose shell cut in half is utilized by the Chiriguano as a cup or spoon. Prov.: Caipipendí. (2/5 nat. size.)

Fig. 45. Calabash cut in half to serve as a spoon. Prov.: Macharetí. (1/4 nat. size.)

Fig. 46. Ladle carved out of a calabash. Prov.: Tintapaw (upper Pilcomayo). (1/7 nat. size.)

Fig. 47. Reserve calabashes hanging in a net inside a Chiriguano hut. Ibopeytí.

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177 /430 cont./ Let us not forget that
53 pyrography is a masculine activity and that men are more
[462] open than women to every innovation. Moreover, for the
[167] most part they have gone to Argentina, and from there, with a new turn of mind, they brought back models and inspirations foreign to their ancient tradition. This European influence is patent in many cases; thus, the calabash of Plate LXVII, 3, and the one of Plate LXIX, 1, are decorated with Arabic numbers. The calabashes of Plates LXIV, 1, LXV, 1 and 5, and LXIX, 5, are decorated with stylized flowers or stars which are not Indian at all. The influence of the white men and their bad taste is evident in the motifs painted in roucou which decorate the calabash of Plate LXV, 3.

531 Anthropomorphic or zoomorphic representations are commoner on calabashes than on pottery. A rough drawing of a man greatly schematized /431/ is represented on the calabash of Plate LXIII, 1 a and b. On the calabash of Plate LXIII, 2 a, dogs have been engraved and birds on those of Plates LXIII, 1, LXVIII, 3 a and b, LXIX, ?, and LXXI, 3. A llama was represented in very expressive fashion on calabash No. 2 b on Plate LXIII; and on the calabash of Fig. 85 a and b one recognizes a horse and a feline animal, a puma or jaguar. Three fish and a bird appear on the specimen of Plate LXVII, 2.

531 The Indians of the Ivu mission and the ones from
322 the Caipipendí valley paint their calabashes with roucou.
386 This color is very difficult to rub off and does not spread beyond the periphery of the colored designs. /Fig. 86 appears here. To obtain this result, the Chiriguano begin

C /431 cont./
531 by taking off the epidermis which covers it, except at the places
322 which are to remain uncolored. Then they smear its exterior
386 surface with roucou and scrape the tegument where they have saved it. The figures then stand out in red against a yellowish background. An analogous process is in use among the Pauserna (Nordenskiöld 5, p. 344). The motifs decorating most of the

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Fig. 86. a, b, and c. Miniature calabashes, "liqueur glasses" and children's toys. Chiriguano and Chané. Prov.: a, Tuyunti, near Aguaray (Salta Chaco); b, Ñawirenda (upper Pilcomayo); c, id. (About 1/2 nat. size.)

C
531 The motifs decorating most of the painted calabashes I collected in Ivu are unfortunately very
179 much influenced by European models, and beside very pretty designs one finds others of the most distressing banality.

/468 cont./

412 171 At La Paya, Ambrosetti (6, Fig. 254, p. 484) discovered combs cut out of a small wooden board and some composite combs. Instead of simply recording the coexistence of two different types of combs /Plate LXXXVII appears here/ /469/ in the same place, a very natural phenomenon by reason of the heterogeneous character of the culture of La Paya, Ambrosetti puts forth the strange hypothesis that these combs served for carding wool, without taking the trouble to inquire whether this instrument was known in pre-Columbian times.

303 322 462 412 The making of combs, like all wood carving, is an essentially masculine job.

412 413 174 The table on Plate LXXXVII indicates my idea of the morphological evolution of the different forms of combs which I have collected.

Chapter XII

Furniture

352 [114] Since the diverse cultural elements which constitute the furniture of the Chiriguano have been completely studied by Nordenskiöld (10, pp. 8-22), I shall limit myself to mentioning them here, insisting only on several details. /Fig. 124 appears here./ /See p. 338./

[342] Let us enter a Chiriguano hut. The door we open is a kind of screen of reeds or a cowhide hardened in the sun. Daylight penetrates the interior through this opening. The only important [513] piece of furniture is a wooden cot (Fig. 125), a kind of bedstead generally occupied by two persons between whom one or two children come /470/ to slip in somehow or other. Nor do the Chiriguano hesitate to sleep on the ground on an oxhide, which they spread out in front of their house. On the upper Pilcomayo, in nearly all the huts one can /Fig. 125 appears here/ /See p. 339./ see one or two hammocks which serve either as seats during the day [286] [177] or as cradles for small children. Their technique, that of the double thread (Doppelfadentechnik), continues an old Guarani

[Text Continues on P. 338]

/476 cont./

123 Drawings. On Plates XCI-XCIII, one can see gathered to-
126 gether a certain number of drawings executed for my sake by
532 Chiriguano Indians. In order to obtain them I first approached several old men, who refused with an outraged air as if I were
123 asking them to do a thing beneath their dignity. A small boy
126 of 12, Consito, two young men, Asensio and José Miguel, and
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Fig. 136. Indian executing the mobile string figure called "culo de caballo /horse's rear end/.

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115 a girl, Iwawasei, showed themselves willing to cover the pages
532 of my album with all kinds of sketches.

Consito did not have to be begged: I was proposing to him a game not only pleasant but fruitful, and he had soon filled two pages (Plate XCI, 1, 2, 4, 9; Plate XCII, 2, 4; Plate XCIII, 1, 3, 10). Asensio, my faithful friend, also gave me
115 complete satisfaction. He was a curious individual, and I keep
123 a particularly vivid and congenial memory of him. He was 25
126 to 30 years old and was conspicuous because of his extraordinary activity and ingenuity. At any moment of the day he could
[322] be seen busy cutting or carving a piece of wood which then

[See pp. 355-357-- Analyst]

/476 cont./

115 123 126 [322] [463] became an ingeniously conceived tool or still oftener a musical instrument. Asensio used to make violins which on first sight appeared to have come from a European factory. It goes without saying that he was the recognized carpenter of the village and the great provider of household articles. When Asensio had understood the purpose which had brought me to his home, he transformed his hut into a workshop for ethnographic objects; and I owe it to his enterprising spirit that I was able to collect many a piece, today no longer in use, which he reconstructed for me.

At the time when I was in his village, Asensio had received big orders for flutes for the coming Easter festival, [532] and I had a good time watching him work. Once an instrument was finished, he would embellish it with engraved animals.

115 126 532 The material on which Asensio (see Plate XCI /see p.355/, 5, 7,, and Plate XCII /see p.356 /, 3, 6) incised his figures exerted an indirect influence on the pencil drawings he drew in my notebook. They stand out by their angular character, but also by their clearness.

José Miguel (see Plate XCI, 8; Plate XCII, 1, 5, 7, 9; Plate XCIII /see p. 357 /, 2, 4, 6, 8, 11, 12), whom Ascensio's example had encouraged, asked me to give him the notebook and pencil, and he made me a whole series of drawings which, although rather light and uncertain, sometimes are not lacking [177] in a certain movement. José Miguel had traveled to Argentina: the train and the automobile (which he drew from memory) attest well to his admiration for the /477/ marvels of "Progress" (Plate XCII, 7, 8). Thank God his modernism had not made him forget his mythology, and he was able to draw for me a mythical episode which is to be seen on Plate XCIII, 12, A, B, C: the blue jaguar (yaguarowi, personification of the spots on the moon) is preparing to devour the moon and the sun.

123 126 532 When I had finished with the men, I wanted to have several feminine drawings, imagining that the women would lend themselves willingly to this game since they are the recognized artists of the tribe. All, unanimously and to my great surprise, refused to do it, shouting in the middle of gales of laughter: Aikuag "I can't do it, I don't know how."

/18 cont./

137 824 ALGARROBO NEGRO. -- Among the Indians this is called "Ivopene," and the whites call it tusca; it multiplies and grows very fast. Sometimes 20 or 30 newly sprouted plants can be counted around a single cake of cow dung, which indicates that the cattle eat it in abundance, and where it does not already exist they sow it with their bowels. [262] It grows to a height of some three meters and is very thorny, which makes it difficult to travel through places where it is abundant; when there is no other food it is one of the Chiriguano's resources.

• [322] ALGAROBILLA. -- The wood of this plant, which the Chiriguano call "Igüirayepiro," is black and very good for cabinetmakers; it is a species of ebony and is strong. Implements of war and those for fiestas of the tribes are made of this wood; its trunk is twisted, and it rarely has a single trunk; the flowers are yellow and the berries much sought after, by goats, but it makes them abort.

ALGODONERO /cottonwood/. -- This is a leafy tree with many branches; it grows to a height of two meters, has yellow flowers and a white boll when it is ripe, which is then picked, dried in the sun, the material pulled away from the seeds and cleaned. The "mandiyu" cotton is very useful; hammocks, ponchos, saddlebags, and sacks are made with it; it would even be easy to manufacture macana, but this is not done because what comes from outside is very cheap and /19/ [957] showier, even though it is not as strong as the other. Its leaves used as a poultice are anticancerous, and its seeds in the form of a pomade work against herpes and skin eruptions; oil for lighting can be extracted from the seeds.

ANNONA. -- The annona is a bush which grows to barely one meter; it has congenial places, the pampas, which have soil mixed with sand. In the said pampas it thrives in abundance, but it is even found in other places. The ripe fruit is red and like the pineapple in shape, but the pulp and seeds are like the chirimoya, as is the flavor of the pulp. Before it ripens, even the skin is very similar to that of the chirimoya. The Chiriguano call it "Araticu."

ASPIDOSPERMO BLANCO. -- This tree is of great size and it is abundant almost everywhere; the wood is white and good

/19 cont./

137 824 [757] in dry places; when dampness penetrates it, it is destroyed in a few years, as experience has shown. The bark that is found under the first layer is split, washed in tepid water, and left to steep overnight; it cures intermittent fever. The Argentinians call it cacha, the whites quebracho, and the Chiriguano "Igüiraro."

AZUFAIFO /jujube tree/. -- This is abundant hereabouts [262] and is a tree of medium size. Its wood is not valued very highly, but the fruit, the size of a grape seed and of a dark coffee color, is a great resource in times of scarcity for the poor Chiriguano. It ripens in January and February and is liked even by cattle and by sheep and pigs. The whites call it mistol and the Chiriguano "Yuá."

245 BANANA TREE. -- Cultivated in orchards and well fenced-in fields, it forms a grove, and each plant yields or produces a cluster, very large on some of them. When the ripe cluster is removed, the plant that produced it must be cut in order that the others may produce their own. There are several [262] varieties, large and small, the latter very sweet and eaten as fruit, and the former only when boiled and roasted; the whites call them plátano, and the Chiriguano "Pacoba."

137 824 [271] BIGONIA ACUOSA. -- This is a tiny little bush one vara in height, which under the ground has a large root like a watermelon and even larger; it contains much pulp which, when squeezed, yields potable water and is used for it in times of scarcity. The Chiriguano call it "Sipoi."

[342] CATALPA. -- This is a large tree and fairly strong. Its wood is used in the construction of houses. The color of the /20/ wood is dark, but when it is newly cut it is somewhat [515] green. Its flowers are purple, and the Chiriguano chew them to whiten their teeth; they are bitter and because of this the tree is called "Tayi," or bitter, in Chiriguano, the whites call it lapacho.

CEIBA. -- A large tree with deformed trunk, and furnished with sharp points, broad leaves, and large, white flowers which produce a material similar to cotton without fibers, for which reason it is smoother and shinier; it is used for mattresses [322] and pillows and candle wicks. The wood is spongy and not at [415] all hard; from it are made troughs to hold water from year to year and in this way they are not soon damaged. Its ashes

/20 cont./ ITS ashes
are good for the manufacture of soap, the bark is an emetic. The whites call it toborochi and the Chiriguano "Samuú." There are several varieties and all of them are utilized to some degree or other.

CEIBO. -- This tree is smaller than the former, but its wood is much superior, very fibrous, and rather light in weight, being used to make troughs which are very durable since they neither split nor are eaten by wood borers. It is very pretty when it blooms; the flowers are fiery red and good for salads. The Chiriguano call it "Suinandi."

DRAGO /dragon tree/. -- A tall tree, straight and quite thick; the wood is strong and useful. If an incision is made in the tree, a very red resin comes out; its bark is the best for making the teeth hard and for curing scurvy. The gum called "dragon's blood" is extracted from this tree. The whites call it tipa and the Chiriguano "Gũirapitiyu guasu."

ENEA /cattail/. -- An aquatic plant which abounds in certain ponds and pools formed by the water of rivers which flow away from the main stream; the Indians use it for roofing their houses, muleteers for packsaddles, and others for mats in the dwellings, on which they also have their bedding for sleeping. This is the totora or matara of the whites and the "Caipempe" of the Chiriguano.

ESTORAQUE /storax/. -- This is a very large tree of the forest; it has whitish flowers and yellow fruit the size of a fig, which is edible and a favorite of parrots and monkeys; the Chiriguano eat it as a fruit and call it "Aguai."

GARGATEA or CARICA MAMAYA. -- This tree is not very abundant nor is it found in every section. It is of normal size, with a straight trunk and smooth bark softer than the fig tree; the wood is soft and is of no use at all, being similar to that of the ceiba, or toborochi. Its leaves are like those of the fig tree, and the fruit is of the /21/ same size and form, but yellow; it is edible and good when boiled or roasted, if eaten raw, it hurts the mouth. In Chiriguano it is called "Caincantina."

/22 cont./

137 824 is manufactured. On the slopes of the hills is also found the blackberry /zarzamora/, whose fruit is so pleasant to the palate, but whose thorn, which is like a cat's claw, is quite dangerous and barbed. The mulberry in Chiriguano is called "Tatayigua."

245 NARANJO /orange/. -- Neither the orange nor the lemon are native to the Chiriguano region, but they flourish greatly and grow to some height. Where it is easy to open irrigation ditches and possible to irrigate orange and lemon trees, they produce large, jiicy fruit, the former being very sweet and the sourness of the latter being mild. The citron tree flourishes and is a plant imported here; its fruits are as big as gourds. The Chiriguano cultivate the orange tree here and there, but the whites cultivate it on a large scale; I know of some /23/ rather large orange groves, and they exist in nearly all the missions.

137 824 NOGAL. -- This tree of extraordinary height is only found wild; the leaves are very small and somewhat like those of the true nogal; the fruit is edible, but its shell is hard to crack. [258] The flavor and characteristics are the same as those of walnuts, so that oil, which is used instead of that from the olive, can be extracted from them. The wood is rather dark and good [322] for carpentry and cabinetwork, but it is inferior to that of the true nogal, which is found in the cultivated state where there [386] is sufficient moisture; a dark coffee-colored dye is prepared from the leaves, the bark of the trunk, or the roots, for dyeing wool, for staining other woods, and for printing ink.

NOPAL. -- This is the fruit-bearing plant which is most abundant in the region and which is found everywhere without any cultivation, for which reason it is most highly regarded by the Chiriguano, who is naturally lazy. But since it is sought [245] by the cattle, it is beginning to disappear or, more exactly, it is not found very much in the woods and clearings, but the Indian still cultivates it because it flourishes easily without need of irrigation and multiplies without the need of planting other shoots. It is convenient for the laziness of the Indian; the yellow flowers come out around each spathe and the fruit matures there as well; it is full of small seeds and sweet pulp, pleasant and refreshing. Some trees are covered with long

/173 cont./

342 The canes, or sticks, are attached in the same way as in the roof, with the difference that for the walls they are put in double order, outside and inside, so that they can serve as a support for the dampened earth, which in the end is like a large bag, long and tall, around the house. This other work [462] is done by the Indian men, engaged beforehand by the promise of chicha; next they too dig in the wet soil /174/ dampened by the rain or by water, and help the women in the operation of forming the walls.

With such simplicity, the four walls are raised in a single day, everything being completed; at the present time almost all houses have a gallery where the men and women always sit to enjoy the cool of the mornings and the evenings in friendly gatherings, a gallery which is even used for sleeping on excessively hot nights, especially when inside there is an abundance of vinchucas and other insects (1).

346 476 1. In Parapiti a school for 150 girls was built and finished in 12 hours; nothing had been prepared for this building; it was planned the day before and done at once by all the inhabitants.

342 With the erection of the gallery, the house is completely finished, and the Indian content and satisfied. In present-day buildings care is taken to place the door, or entry, at one end of the house which corresponds to the gallery, and many have two, one in front of the other, in order to have a way to the patio which they make with a fence of thorns for greater comfort.

347 28 The doors are of cane, which they tie together like mats, but vertically, with ceiba bark or with cowhide thongs, which [322] are more durable indoors. If an Indian can get a cowhide, [824] he makes a door of Guayapa wood, or, as the whites call it, zacharrosa, or another soft wood, which he puts in a hole left in the construction; he makes another frame with its hinges made of the same wood, soaks the hide, and fastens it in this

/174 cont./

342 281 second frame, taking care that it is not very tight so that when it dries it will not warp. He attaches this hide from behind with thongs of the same material, and the result for them is a door de luxe, which could be envied even by some whites, who, in spite of the fact that they have hides, either cannot find anyone to work them for such a door, or who out of avarice and in order not to spend a few coins do not concern themselves with such a comfort (2).

342 382 2. Some of them make very crude doors with two pieces of thorny ceiba wood, which they work perfectly with a knife. No Chiriguano puts a window in his house.

Ancient Houses

342 177 178 Some of my readers perhaps may have believed that the house and its mode of construction just described go back to the origin of the race. /175/ This belief would be an error, because they must understand that the above-mentioned is the result of progress. The method of building houses like the present ones is relatively new: they learned it from the whites, especially from the inhabitants of the Santa Cruz area, where the houses all have galleries, this being noted even in the capital of the department, although they may be of much more importance and may be disappearing in the new buildings. But 184 in Monteagudo, Lagunillas, Charagua, and centers where the Chiriguano have their holdings, houses have gallaries.

These, in addition to giving the houses a better appearance, in addition to the indisputable utility, are a very great reinforcement and protection for the walls of the house, not allowing the torrential rains to wear away or demolish the plastering that 342 171 they do in all the houses. It is true that many houses of the whites in their towns are of adobe, but when the timber is of superior quality it is almost preferable, because this material + REMAINS JOINED BETTER AND IS MORE COMPACT.

/179 cont./

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356 With such an arrangement, it is not difficult for the Chiriguano woman, after having taken her bath, made her toilette, and put up her hair, to sweep her house in a few minutes, sweep the rest, put back in its place everything that has been used, to put the beds to the walls, put the coverings on the cords in the corners, and again prepare what is needed for cooking (2).

2. The ancient Chiriguano woman did it this way, because she got up very early; today, as she is beginning to be lazy, after having done everything, she goes to the spring, bathes, combs her hair, and carries water.

Cots and Seats

513 No matter how poor a Chiriguano may be, he seeks comfort for sleeping and does not sleep on the ground when he is at home, both in order to avoid sickness and to be free of poisonous animals which abound, such as the snake, the scorpion, and the tarantula, which strike horror just to look at them. Furthermore, they do not sleep on the ground in order to be free of the bite of other insects, such as the vinchuca and the guanaco in certain areas, but despite this their cots are /180/ full of other little coffee-colored bugs, known in every corner inhabited by man.

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322 In order to avoid any such accident, one obtains the Igüirapempi, cot, by making it oneself. Cots are of hollow cane, little sticks, or split maguey sticks, which they call caruguata guasu. In order to make them, they first make a rectangular frame; in this four holes are made 40 centimeters in from the ends, into which four sticks are introduced vertically; these are the feet. Above are tied canes or sticks which are high at the top and bottom and deep in the middle, and this is the cot. At bedtime they are content with placing at the head some rag or piece of wood.

/180 com./

352 The peculiarity of the Chiriguano cots is that they are almost always shorter than the persons who must sleep on it: most of them measure one meter 60 centimeters. They perhaps have [513] this peculiarity because they sleep curled up like pigs in order to hold together better the little clothing or blankets that they [178] possess. Today they are beginning to make them longer and [237] to have cots like the whites use: the open part of the latter is closed with cowhides which they attach first lengthwise and then at the sides, equidistantly about every seven or eight centimeters, with many small squares being the result (1).

1. The cots which are made with split agave sticks are soft and preferred: in the Ivu Mision almost all make them of this material.

574 576 516 The Chiriguano man does not like to sit on the ground either: when he is visiting, it would be an insult to make a man sit on the ground: nevertheless for a gathering of friends they do sit 352 down where they wish and stretch out like dogs in the sun. For 322 the reception of visitors they have crude seats. They are of [574] wood and called Apica. There are some with two places and up to four with their respective dividers: there are some for [412] men and even for children. They are of a single piece, and they are made by dint of much patience by hollowing them out with an ax. The tree should be a thick one so that the seat may have a little height and the occupant may not cut a ridiculous figure of a punchinello or clown, causing laughter [438] among the onlookers. They also use benches and chairs like [439] those of the whites: they make the latter for their own use [824] and to sell to their fellows and to the whites. The wood which they seek out for these labors is zacharroza, because it is soft and easily worked with the tools that are available to the poor Chiriguano, who does not always have an adze and a chisel. 352 Some people also have /181/ hammocks, Quiha ō imi, but they are so old and black because of the action of the smoke that they arouse disgust (1).

524 1. For a children's game they hang in the

/181 cont./

524 gallery two cords, tying at the ends a piece of cowhide 80 centimeters long by 20 in width, hanging about 60 centimeters above the ground. This is called Sabiuca, swing, and here the little boys and girls swing and rock.

562 Women sit on the ground in their houses and observe the
564 same custom when they go visiting. The man waits until he
592 is told where he should sit and always receives the best seat.
516 The woman does not wait: she knows her place: she arrives, does not greet anyone, leaves her bundle in a corner, if she has one, and then squats down in such a way that from near or far many women squatting like this look like so many cannonades /camaretas/ ready to go off.

Matés

462 In the furnishings of Chiriguano houses a preferred place
241 is occupied by the matés, made of gourds divided vertically
415 through the middle. This is man's work: he plants them and
322 cultivates them in his field, and when they are mature they are brought to the house where they are allowed to dry in the shade and also in the sun. Some three months are needed for this or even more, depending on the season. Nevertheless, they are watched throughout to see whether a fingernail will penetrate the skin. When the fingernail will not penetrate, the gourds are ripe. Then they remove the first skin, split them, extract and completely remove the pulp, keep the seeds for the new planting, and, when they are clean, they let them dry for a few days.

462 They are put in a separate place, and a second operation
415 begins. With his Chiriguano patience, with a knife or other
531 instrument, the Indian begins to engrave whatever figures occur to him, such as tree branches, circles with grains of sand, squares, figures of jaguars, doves, lizards, dogs, chickens,

Schwabenhöfle 2-4,1 (1906-1908, 1913) 1910
1913 Chiriguano 1913
Chaco 191

Their spindles are of the Bakairi type with a knob. (See Part. I map 35). The spindle discs are sometimes of stone. The Chané at Rio Parapiti sometimes use when spinning a small earthen plate made for the purpose, on which the spindle is whirled.

C Ce. 283

The preparing of leather.

The Chorotí and Ashluslay have no knowledge of tanning, whereas the Chiriguano, Chané, Toba and Tapiete have. They use the bark of Piptadenia and other trees.

C Ce 281 197 (71)*

These Indians have, in all likelihood, learnt the art of tanning from the Whites who, in these tracts, are more skilled in leatherwork than in any other trade. Tanning seems to be unknown to all Indians in S. America who are either untouched or but slightly influenced by White civilization.

The carving and ornamentation of calabashes.

C Ce. 415 322.

The Chiriguano Indians, as well as the Chané make very great use of calabashes. They are used as receptacles for water and maize-beer; as bowls, humming-tops, bowls and, above all, as drinking-vessels. At festivals maize-beer is handed round in elaborately ornamented calabashes.

Sometimes the calabashes are provided with lids. These are so made that lid and box are of the same fruit. Now and then star-shaped lids occurs. Lids with a shutting arrangement of the type shown in Fig. 30 A are characteristic of these Indians.

I published in Part I a map showing the distribution of calabashes with lids. From this map we see that these are probably a culture-element which the Indians east of the Andes received from the western area of civilization.

I scarcely think, at any rate, that the star-shaped lids can be cut out so as to fit tight on the box, save with a metal tool. It could hardly be done with a stone or bone implement.

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X 3. Flavio Rio Ventuari. Communication by letter from Prof. Koch-Grünberg.

Baskets with lids which are opened like an ordinary cigar-box.

A. Graves on the Peruvian Coast. C. M. Very common in all collections of peruvian antiquities.

Some baskets from the Chiriguano have shapes which make them look like imitations of earthen vessels. (Fig. 33 C and D) Sometimes they even have an ear. Chiriguano and Chané baskets are very seldom ornamented.

Metal-work.

The only metal-work now occurring here is that the Chiriguano sometimes make their trembetas (lip-buttons) of tin themselves. Whether the Chiriguano and Chané, before coming into contact with the Whites, themselves performed metal-work, I cannot say.

Stone-work.

The Chiriguano and Chané do not now work stone.

Wood-work.

For their wood-work the Chiriguano and Chané now use exclusively tools obtained from the Whites.

Weaving.

Among the Chiriguano I saw two types of loom; among the Chané only one.

The loom found among the Chiriguano and Chané is characterised by the completed product forming a ring (seamless) N. B. if so desired. The warp is set up as shown in the outline drawing. (Fig. 33.2) and in the sketch of a hand-loom from the Chané. (Fig. 33.1). When the ring is

[text continues on p. 176]

/247 cont./

The Chiriguano and Chané men are clever in the decoration of calabashes (Fig. 126), carve attractive pipes (Fig. 120), and know how to tan leather, which they probably learned from the whites.

Among these Indians one does not see much in the way of plastic representations of animal and human figures. The clay /248/ vessels sometimes have animal shapes. The Chané women on the Rio Parapiti fashioned lumpy little dolls out of wax for their children (Fig. 105). Some of the clay vessels are painted with animal figures. A vessel from the Rio

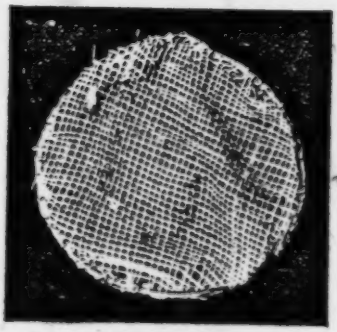

Fig. 124.
Sieve. Rio Parapiti.
1/6.

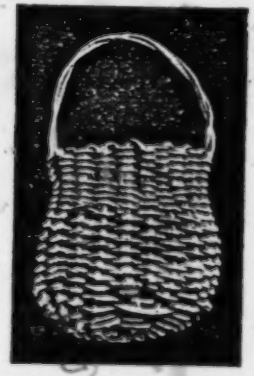

Fig. 125. Basket
Chiriguano.
Caipipendi. 1/6.

Itiyuro, which I acquired through barter, is adorned with tree figures. Occasionally one sees clay vessels in the shape of fruits.

I saw drawings representing human beings and animals on the walls in a few Chané huts and on a few Chiriguano calabashes from the Caipipendi valley.

As for basket work, the sieves are so popular among the whites that through trade they are being distributed far beyond the Chiriguano and Chané region. Otherwise the Chané and Chiriguano make few baskets. We find basket work in quantities only among the Indians where the matching-leaved palms begin, and that is at Santa Cruz de la Sierra.

342 placed close together and fastened with withies lashed on horizontally (figs. 189 and 190), or of branches woven together and daubed with clay (fig. 191). The roof, the construction of which is apparent from fig. 217, is thatched with grass. This is an especially interesting *method of roof-construction, used in Peru already in the pre-Columbian period*, a fact plainly evident from an ancient Peruvian vase-painting[1] (fig. 193). The walls and the roof are supported by a hut frame consisting of poles (fig. 217).

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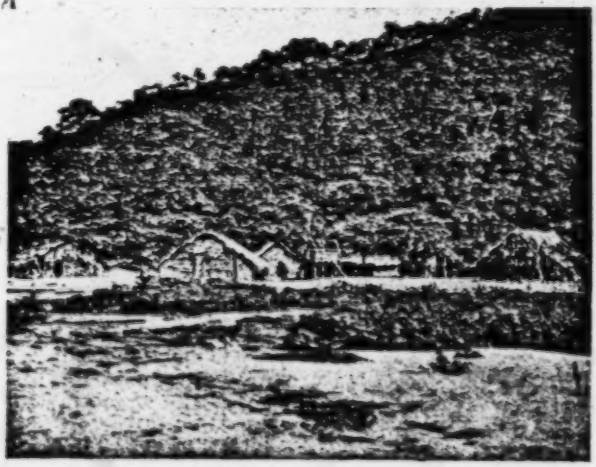

Fig. 188. Part of a Chiriguano village. Two small pile-buildings, used as maize-barns can be seen between the huts. Ibitibi. Bolivia. Photo. E. v. R.

343 The granaries for storing maize are always built on pole supports
417 (figs. 188 and 192). Fig. 191 shows a step-ladder leaning against a tree.
322 Step-ladders of this kind, usually hewn out of a single piece of wood, are used by the Chiriguano as means of access to these pole-supported granaries.

174 Baron E. Nordenskiöld, who has made a valuable analysis of the distribution
342 of pile-buildings in South America[2], considers that when pile-buildings occur among a tribe inhabiting a region not exposed to inundations, then the idea of constructing buildings raised on piles has generally originated at the time when the tribe inhabited some other region, either a swamp,

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[1] Joyce (1), fig. 13.
[2] Nordenskiöld (12), pp. 3—8.

1 [see cat. 116, P. 215 -- Analyst]
2 [see cat. 116, p 195 - - An.]

8: Schmidt--70 E-5 (1935) 1938 SF10 Chiriguano SF10
Chané SF8
Izozo

Combs (kívua) in the Collection

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[126]

I. A. 740. (Found on the road between Capirenda and Garrapatal. Length 9.5 cm. Width 9 cm. (Fig. 29a.)
I. A. 1327. Izozó. Length 7.5 cm. Width 3.5 cm. (Fig. 29b.)

The two combs in the collection, coming from the Izozó, represent two completely different types of comb. To the first type belongs the comb I. A. 740, which is made up of some little wooden sticks held together between two transverse pieces of cane interwoven with threads. (Cf. Fig. 29a.) The comb of the second type, I. A. 1327, has simply been carved from a single piece of flat wood. (Cf. Fig. 29b.) A comb similar to I. A. 740, coming from the Chané, is shown by Nordenskiöld in a drawing (122). The three Chiriguano

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122. Nord. 1, Fig. 109.

combs shown in a drawing by Nordenskiöld (122) /see footnote 122 above/ belong to the second type and have been carved from wood, like the Izozó comb I. A. 1327. But in contrast to this one, the upper parts of their backs have been carved. Likewise the Chiriguano combs shown in drawings by v. Rosen and Métraux (123) are decorated with such carving.

123. V. Rosen, op. cit., Fig. 196.
Métraux I, Plate 87.

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Up to now there has been some doubt as to how these two different types of combs might be distributed among the Chané and the Chiriguano. According to Nordenskiöld (124),

124. Nord. 2, p. 81.

the Chiriguano only have combs carved from a single piece of wood, and the Chané commonly have the type of comb with small sticks and rarely the simple comb carved from wood.

/28 cont./

V. Rosen and Métraux found among the Chiriguano combs made of little sticks (125), and, as already mentioned, I obtained these

125. V. Rosen, op. cit., p. 202. Métraux I, pp. 467 and 468 and Fig. 123.

two types of comb from the Izozó. According to this, I believe that we must decide the question of the manner by which the two types of comb appear simultaneously among the Chiriguano and among the Chané, but noting first that among the latter the comb made of little sticks is more common and among the former the wooden comb is more common.

Because the diffusion of simple combs carved from wood, like those that the Chiriguano and the Izozó-Chané have, is relatively restricted among the other tribes of South American natives, while this type of comb was known to the ancient Peruvian culture, we must also include this cultural possession among the ancient Peruvian influences (126). The combs fitted

126. Nord. 2, p. 81.

with little sticks, which we know from the Chané and the Chané-Izozó, are different from such combs used by most of the Chaco tribes, for example, by the Churupí /Chulupi/ and the Maká /Maca/, not only with respect to its material but also with respect to its method of manufacture. But I do not accept Nordenskiöld's opinion, according to which those Chané combs are different, in that they are only usable on one side, from those of the Chaco tribes, which were usable from both sides (127). The Chaco Indian combs furnished with little

127. Nord. 1, p. 204. Métraux I, p. 467.

sticks that I am familiar with are also used only on one side for combing, inasmuch as the other side is the handle. We can be quite sure of that because the little sticks of cane that form the teeth of the comb are pointed at only one end. The

Ce /56 cont./
323 paint on the rim, which is done with the resin of the palo santo
824 (Bulnesia sarmienti), which is spread over the surface of the
386 vessel after it has been baked (253).

253. Nord. 1, p. 246. Nord. 2, p. 144.
Métraux I, pp. 386 and 387.

Ce
Working of Stone and Metals

324 The manufacture of stone implements is not done among the
C Chiriguano and Chané. The same can be said with respect to
Ce the manufacture of metal implements, except that the Chiriguano
325 sometimes make their tembetá of tin themselves (254), while
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254. Nord. 2, p. 171.

41 they ordinarily obtain their metal ornaments and implements from the mestizos and the whites.

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Woodworking

• 322 Various objects made out of wood by the Chiriguano have
[41] already been mentioned above, such as house posts, ladders, plates, spoons, pipes, bows, arrow points, and also cuyas /vessels made out of gourds/ and calabashes. Among other objects made of wood we must also mention the mortar and pestle, various implements used in weaving, small sticks for making nets, large dishes used for keeping food, and flutes. Because the Chiriguano,
C when they work wood today, exclusively use modern tools ob-
[177] tained from the whites, they have not retained any of their native
[178] technique. /Plates XXII-XXV appear here./

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Plate XXV

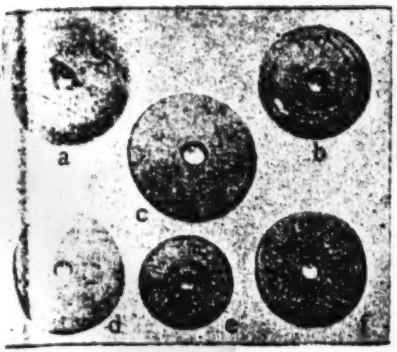

Fig. 87

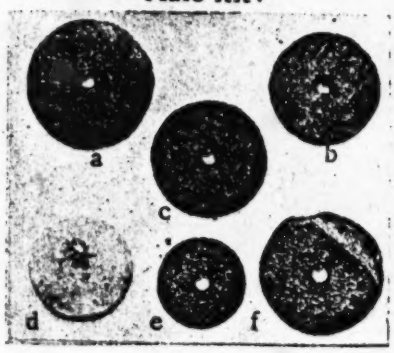

Fig. 88

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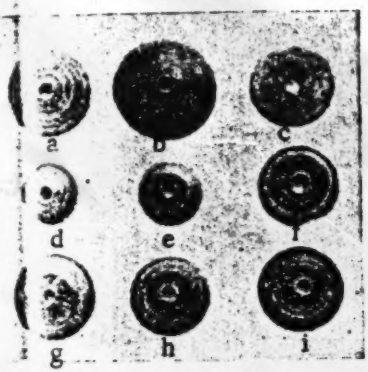

Fig. 89

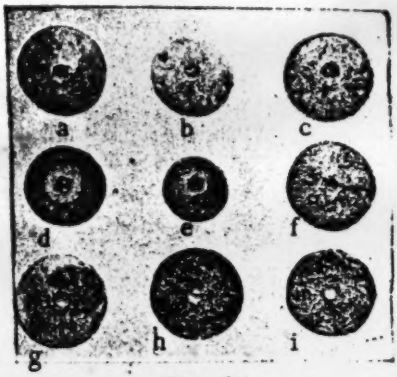

Fig. 90

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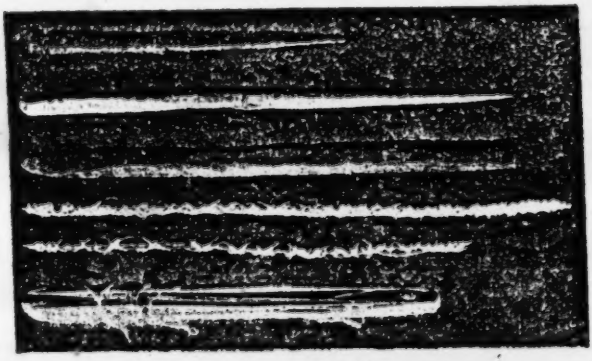

Fig. 91

/The captions are on p. 148./

8: Schmidt--148 E-5 (1935) 1938 SF10 Chiriguano SF10
Chane SF8
Izozo

/Captions for Plates XXIV and XXV./

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Plate XXIV

Fig. 85. Spindles, a-d (Izozó), e Chiriguano): a (I.A. 724), length 51 cm.; b (I.A. 703), length 41 cm.; c (I.A. 716), length 41 cm.; d (I.A. 691), length 40.5 cm.; e (I.A. 475), length 42 cm.

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Fig. 86. (I.A. 725 a and b) Basket (height 12 cm.), cotton seeds, raw cotton, and a spindle with thread, and a ball of cotton thread (Izozó). b (I.A. 726), ball of cotton thread (Izozó), dia. 8.5 cm.

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Plate XXV

Fig. 87. Wooden spindle whorls (Chiriguano): a (I.A. 478), dia. 6 cm.; b (I.A. 474), dia. 5.2 cm.; c (I.A. 480), dia. 6 cm.; d (I.A. 471), dia. 5.3 cm.; e (I.A. 479), dia. 4.3 cm.; f (I.A. 477), dia. 5.2 cm.

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Fig. 88. Spindle whorls, a-c of baked clay, e-f of stone (Chiriguano): a (I.A. 486), dia. 6.2 cm.; b (I.A. 487), dia. 5.3 cm.; c (I.A. 483), dia. 5.3 cm.; d (I.A. 481), dia. 4.8 cm.; e (I.A. 482), dia. 4.2 cm.; f (I.A. 484), dia. 5.7 cm.

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Fig. 89. Baked clay spindle whorls (Izozó): a (I.A. 705), dia. 4.7 cm.; b (I.A. 687), dia. 5.2 cm.; c (I.A. 700), dia. 4 cm.; d (I.A. 702), dia. 3 cm.; e (I.A. 696), dia. 3 cm.; f (I.A. 690), dia. 4 cm.; g (I.A. 692), dia. 4.5 cm.; h (I.A. 689), dia. 4 cm.; i (I.A. 695), dia. 4.2 cm.

Fig. 90. Baked clay spindle whorls (Izozó): a (I.A. 724), dia. 4 cm.; b (I.A. 708), dia. 3.8 cm.; c (I.A. 709), dia. 4.3 cm.; d (I.A. 721), dia. 3.7 cm.; e (I.A. 722), dia. 3.3 cm.; f (I.A. 720), dia. 4.4 cm.; g (I.A. 711), dia. 4.3 cm.; h (I.A. 713), dia. 4.2 cm.; i (I.A. 710), dia. 4 cm.

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Ce
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Fig. 91. Implements for weaving: a (I.A. 500), implement for arranging the warp threads (Chiriguano), length 20.5 cm.; b (I.A. 674), implement for arranging the warp threads (Izozó), length 30 cm.; c (I.A. 673), wooden sword for weaving (Izozó), length 30 cm.; d (I.A. 727), shuttle with cotton thread (Izozó), length 33.3 cm.; e (I.A. 728), shuttle with cotton thread (Izozó), length 27 cm.; (I.A. 513) reel (Chiriguano), length 25 cm.

/79 cont./

534 I. A. 494. Flute (Chiriguano). Cane. Lgth. 41 cm. (Fig. 34a.)
[126] I. A. 495. Double whistle " " " 33.5 and 7 cm. (Fig. 34b.)

[126] From the Chiriguano in Machareti I acquired two different kinds of flutes, the ones made of cane and the others made of wood. The two wooden flutes I. A. 491 and 492 (cf. Figs. 93a and 93b /see Fig. 33a and b, p. 89/) are of particular importance because of their similarity in form, and in the case of I. A. 491 of decoration as well, to a special kind of balance beam of the ancient Peruvians, and for that reason they have already been dealt with several times in ethnological literature. These two flutes are doubtless quite old specimens which perhaps had already been used by several generations. They are called "sereré" by the Chiriguano, and they are of hard wood bored from one end to the other. In the middle of the upper edge of the lozenge of the apparatus, there are two small perforations . A similar flute shown in a sketch by v. Rosen (299)

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[301]

299. V. Rosen, op. cit., p. 220.

shows that these perforations serve for a string to pass through, in order that the flute may be worn as a chest ornament. Nordenskiöld (300) has already called attention to the surprising

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300. Nord. 3, pp. 187 and 188.

resemblance between these flutes and a special form of balance beam of the ancient Peruvians. These, numerous specimens of which are known, are no doubt classified as balance beams because of the fact that on some specimens /80/ the cord which passes through the horizontal perforation and which has at one end a weight and at the other end a loop, or some such similar thing for holding the objects that are to be weighed, has been preserved. V. Rosen, describing and showing in a drawing one of these Chiriguano flutes, which is like flute I. A. 491 except that it still has the cord which passes through the two holes on the upper